Promoting Correct Tire Pressure: A Pilot Project

Final Report

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1.0 INTRODUCTION

1.1 PROJECT OVERVIEW

Greenhouse gas emissions result from a variety of public activities. Many of these, such as commuting, are difficult to alter. Tire pressure maintenance, however, is an activity that is more amenable to change.[1] Although other activities may be more critical to reducing overall GHG emissions totals, broad public participation in maintaining optimal tire pressure could be used in future campaigns to leverage more meaningful and challenging changes in behaviour that will contribute to Canadian efforts on climate protection. In addition to reducing unnecessary greenhouse gas emissions, correct tire pressure has the additional benefits of improving driving safety, preventing unnecessary tire wear, improving fuel efficiency, and contributing to smog reduction.

Conventionally, attempts to encourage public involvement in activities that favour the environment have been information-based. For the most part, these campaigns have provided information to the public through such activities as advertising and the distribution of flyers. These information-intensive campaigns can positively influence attitudes and awareness, but research indicates that they rarely influence behaviour.

Community-based social marketing (CBSM) has recently emerged as a promising alternative to information-intensive campaigns.[2] With community-based social marketing methodologies, the barriers to an activity are first identified. An initial strategy that draws upon knowledge from the social sciences on fostering behaviour change is then devised and applied. Finally, once demonstrated effective, the strategy is broadly implemented.

The Promoting Correct Tire Pressure project made use of the unique approaches of CBSM to encourage the public to maintain correct tire pressure. A review of existing research on barriers to the public maintaining correct tire pressure was conducted and used as a foundation upon which to develop social marketing strategies to overcome these barriers. The most promising strategies were then piloted at gas stations in two locations – Atlantic Canada (the Cities of Fredericton and Saint John) and the City of Mississauga – to examine and evaluate the most effective models for program delivery.

1.2 PROJECT FUNDERS AND PARTNERS

The Promoting Correct Tire Pressure project involved a unique, multi-sectoral partnership, which included all three levels of government – federal, provincial, and municipal – as well as non-government organizations and the private sector:

Federal Government

- Natural Resources Canada
- Environment Canada
- Climate Change Action Fund

Provincial Government

- New Brunswick Department of Natural Resources and Energy

Municipal Government

- City of Fredericton
- City of Saint John
- City of Mississauga

Non-Government Organizations

- New Brunswick Lung Association
- Canadian Lung Association

Private Sector

- Irving Oil (Atlantic Pilot)
- Petro-Canada (Mississauga Pilot)

Generous core funding for the project was provided by the federal Climate Change Action Fund and Natural Resources Canada. The other project partners contributed in-kind support, including staff involvement on the project's steering committee and guidance to the project implementation team of Lura Consulting

Although other activities may be more critical to reducing overall GHG emissions totals, broad public participation in maintaining optimal tire pressure could be used in future campaigns to leverage more meaningful and challenging changes.

[1] In addition to wearing faster and being less safe, Environment Canada reports that under-inflated tires can result in the use of significantly more fuel. For example, if just one tire on a car is under-inflated by six pounds per square inch, fuel consumption can increase by five percent. Further, a recent study for NRCan suggests that as many as 60% of cars have one tire that is under-inflated by 3 lbs. psi (Cheney, 1999).

[2] McKenzie-Mohr, D. & Smith, W. (1999) Fostering sustainable behaviour: An introduction to community-based social marketing. Gabriola Island, B.C.: New Society.

In order of importance, the following barriers emerged as important: remembering to check tire pressure; having a tire gauge; and knowledge related to checking and inflating a tire.

1.3 OBJECTIVES

The overall objectives of the Promoting Correct Tire Pressure project were to:

- Examine ways of promoting correct tire pressure to members of the public;
- Increase community awareness of the importance of reducing greenhouse gas emissions from individual actions, such as maintaining correct tire pressure; and
- Provide the foundation for future community-based programs to promote correct tire pressure.

1.4 OVERVIEW OF FINAL REPORT

This Final Report has been prepared by Lura Consulting and McKenzie-Mohr Associates, on behalf of the project's funders and partners. Following this Introduction, the report describes the overall pilot design and specific CBSM approaches in Atlantic Canada and Mississauga (Section 2.0), as well as the results emerging from the pilot (Section 3.0). Finally, Section 4.0 outlines proposed future directions based on lessons learned from the pilot.

2.0 PILOT DESIGN

2.1 OVERALL APPROACH

The project followed a five-step work plan to develop and apply CBSM strategies to promote correct tire pressure:

1. Identification of Barriers – existing research on barriers and motivations relating to maintaining correct tire pressure was reviewed and consolidated;
2. Strategy Design - CBSM strategies and associated methodologies to test promising behaviour change approaches were developed based on the barrier research;
3. Interviews and Focus Groups – focus groups were convened to seek feedback on the proposed strategies and pilot communication materials;
4. Strategy Application – the resulting CBSM strategies were applied at selected gas stations in Atlantic Canada and the City of Mississauga to promote correct tire pressure; and
5. Report and Project Transfer – this final report summarizes findings on the most effective strategies and lessons learned.

2.2 HIGHLIGHTS OF BARRIER RESEARCH

A review of existing research[3] revealed important information concerning the barriers and motivations pertaining to the maintenance of correct tire pressure.

In order of importance, the following barriers emerged as important:

- remembering to check tire pressure;
- having a tire gauge; and
- knowledge related to checking and inflating a tire.

The following motivations also were uncovered through the research:

- driving safety;
- preventing unnecessary tire wear; and
- increasing fuel efficiency.

Further, Natural Resources Canada's research suggested that gas stations would provide a promising venue to test strategies that encourage the checking of tires. Respondents in this research indicated that they were likely to check their tires when they noticed a problem, when they remembered to, and when preparing for a long trip.

2.3 PILOT DEVELOPMENT

The development of the Promoting Correct Tire Pressure pilot involved three key activities:

1. Selection of partners and locations for the pilot;
2. Identification of CBSM strategies; and
3. Development of project communication materials.

[3] Key studies reviewed included research conducted by McKenzie-Mohr Associates and Lura Consulting for the Climate Change Public Outreach Issue Table (1999), and by Phase 5 Consulting Group for Natural Resources Canada (1998).

Selection of Partners and Locations for the Pilot

non-government partners, the project implementation team sought and secured partnerships with Irving Oil (Atlantic pilot) and Petro-Canada (Mississauga pilot). Both companies indicated a strong willingness to participate in the pilot because of the project's environmental focus as well as its emphasis on safe driving and efficient use of fuel. Further consultation with the oil companies led to the identification of participating gas stations in the Cities of Saint John, Fredericton, and Mississauga. The following criteria were used to select stations:

1. The gas station must have a functioning air pump.
2. The physical layout of the site must lend itself to project staff being able to easily and safely record the checking and inflation of tires.
3. The physical layout of the gas station must lend itself to the distribution of information on checking and inflating of tires, and the posting of signs.
4. The manager of the gas station must be willing to participate in the study.

Identification of CBSM Strategies

Original Approach

The original approach proposed by the project implementation team is shown in the table below, and involved a total of 25 stations in Atlantic Canada and 25 in Mississauga, randomly assigned to one of five conditions. This was seen as the "optimal" approach based on the barriers and motivations uncovered in the preceding research. Drawing on the elements of community-based social marketing, key features of the proposed approach included:

Prompts and Knowledge: Since forgetting to check tire pressure was identified as a primary barrier, prompts (signs) would be placed prominently at the gas and air pumps to remind motorists to check their air pressure, provide information on how to do this, and emphasize the benefits of proper tire inflation.

Commitments: A further prompt involved seeking a commitment from gas station employees to remind motorists to check their tire pressure.

Tire Gauges: As the research indicated that most motorists do not have a tire gauge, an important component of the research involved

	Prompts	Prompts & Commitment	Control
Tire Gauge	Signs placed at pumps and in store remind motorists to check pressure and provide motivations for checking. Tire gauge is provided that motorists can borrow. # of Stations: 5	Signs placed at gas and air pumps and in store reminding motorists to check pressure and provide motivations for checking. Commitments are obtained from store employees to prompt motorists to check tires. Tire gauge is provided that motorists can borrow. # of Stations: 5	No intervention (this condition allows the measurement of tire inflation frequency without any intervention. Frequency with which motorists at these gas stations check their tire pressure is monitored. The control condition serves as a comparison for the other interventions. # of Stations: 5
No Tire Gauge	Signs placed at pumps and in store remind motorists to check pressure and provide motivations for checking # of Stations: 5	Signs placed at pumps and in store reminding motorists to check pressure and provide motivations for checking. Commitments are obtained from store employees to prompt motorists to check tires # of Stations: 5	

Both Irving Oil and Petro Canada indicated a strong willingness to participate in the pilot because of the project's environmental focus as well as its emphasis on safe driving and efficient use of fuel.

The oil company partners indicated that gas station staff already have multiple responsibilities in their interactions with customers, and that it would be unrealistic to ask employees to commit to prompting motorists to check their tire pressure.

ensuring that motorists had access to one for the pilot.

Women: Prior research identified that women were much less likely to check their tires than men. As such, the proposed approach was envisioned to include methods to increase the perception that checking tire pressure could also be easily done by females.

Modified Approach

Following further consultation with the oil companies, one major modification was made to the proposed approach, described above. The oil company partners indicated that gas station staff already have multiple responsibilities in their interactions with customers, and that it would be unrealistic to ask employees to commit to prompting motorists to check their tire pressure. As a result, it was determined that this component of the CBSM strategy would be dropped, and replaced with making an information pamphlet available for distribution to motorists at the participating stations.

As described in more detail in Section 2.4, this modified approach was used for the Atlantic pilot.

Further modifications were necessitated for the Mississauga pilot design, due to a combination of circumstances. The most significant of these was the need to delay the pilot for a year when it was discovered that many of Petro-Canada's Mississauga stations had replaced their free air pumps with pay-for-air pumps. It was determined that requiring customers to pay for use of the air pumps would likely significantly reduce the effectiveness of the pilot. Subsequently, Petro-Canada launched an initiative to replace pay-for-air pumps with free air pumps, both in Mississauga and throughout Ontario. While this delay affected the overall timing of the pilot, it had the benefit of enabling the project implementation team to adjust the Mississauga pilot design based on lessons learned from the Atlantic pilot (see Section 2.4).

Development of Project Communication Materials

The following communication materials were developed for the Atlantic and Mississauga pilots:

"Pump Me Up" Brochures: These were provided to motorists at participating stations. The brochures indicated that correct tire pressure would save money, save lives, help the environment, and prolong tire life. The brochure also included instructions on how to check tire pressure.

"Fill Me Up Too" Signs: These were mounted over the gas pumps to encourage drivers to check their tire pressure.

"Pump Me Up!" Signs: These were mounted at the station's air pump to provide motorists with information on proper tire inflation.

"Pump Me Up" Decals: Mississauga pilot project staff also asked motorists to make a public commitment to regularly check their tire pressure by placing a "cling vinyl" decal in their window (see Section 2.4 for additional details).

The above communication materials were tested and refined through feedback from focus group sessions convened in Mississauga and Fredericton. These materials are presented on the following two pages.

IT'S NOT JUST HOT AIR

Properly inflated tires:

Save $$$ on Gas

Many vehicles are burning 5–6% more fuel just because of under–inflated tires. On a $40 fill–up, this means a savings of over $2, just by keeping your tires properly inflated.

Save Lives

Under–inflated tires can lead to vehicle handling problems and sudden tire failure. Because of serious concern about vehicle safety and potential for accidents, most tire manufacturers are now placing a warning about proper tire inflation on their products.

Help Our Environment

If your tires are under–inflated, your vehicle will burn more gas and emit more pollutants, contributing to atmospheric problems like smog and climate change.

Last Longer

Under–inflation reduces tire tread life. Without enough air, the sides of a tire bend and flex too much. This builds up heat that can cause serious damage to your tires.

TIRE INFLATION TIPS

- Check tire pressure at least once a month and before every long trip.
- Remember that seasonal changes affect tire pressure. In winter, your tires will lose pressure more easily when the temperature drops. In summer, the heat will cause the air in your tires to expand, increasing the tire pressure.
- Ideally, tire pressure should be checked when the tires are cold (but checking when tires are warm is better than not checking at all). The best place to check is in your driveway at home before going anywhere. If you need to go to a gas station, pick one close to home.

A Final Word about Tire Pressure and the Environment

Many Canadians are concerned about environmental problems like climate change and smog. Keeping your tires inflated is just one of many actions that you can take to help our environment.

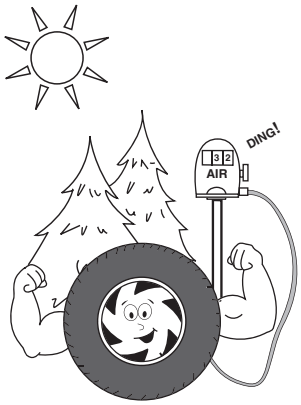
For more information on what you can do, visit the Government of Canada's web site at: www.climatechange.gc.ca/info or call

1–800 O–CANADA (1–800–622–6232)

MISSISSAUGA Canada PETRO-CANADA

PUMP ME UP!

Your guide to proper Tire Inflation

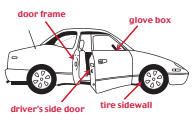
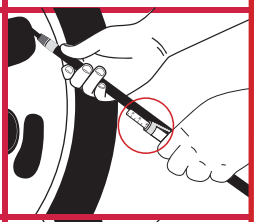
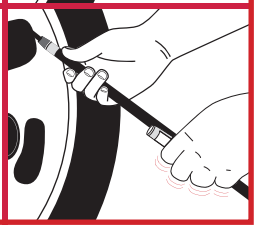


Properly inflated tires help save $$$ on gas, lives and our environment

Inflating Your Tires...Easy as 1-2-3

With the proper amount of air, your tires will save you $$$ on gas, be safer and help our environment. They'll last longer too!

Checking your tire pressure and inflating your tires is easy. Just follow these 3 simple steps:

Step	What to do	
1 Determine correct tire pressure	• Locate correct pressure on label on driver's side door, door frame, in glove box or owner's manual. • Check tire sidewall if not found here. • If a range of air pressure is given, use the higher amount.	
2 Check tire pressure	• Press start button on air pump. • Remove black valve cap on tire sidewall. • Apply hose to valve. • Read pressure as gauge "pops up".	
3 Inflate your tires	• Squeeze lever to add air. • Release lever to re–check pressure. • Continue until correct pressure is reached. • Repeat for <u>each</u> tire. • Do not over–inflate your tires. To remove air, press on tire valve with finger or air hose.	

Pump Me Up! Brochure (Outside Cover)

Pump Me Up! Brochure (Inside Cover)

Pump Me Up!
Air Pump Sign

Pump Me Up!
Window Sticker

Fill Me Up Too!
Gas Pump Sign

2.4 Pilot Implementation

Atlantic Pilot

period during the summer of 2000 at 17 Irving Oil and Coop gas stations in Fredericton and Saint John, New Brunswick.

The participating stations were randomly divided as follows:

- Intervention A (6 stations): These stations had signs at the gas and air pumps, and brochures available at the cash;
- Intervention B (6 stations): These stations also had signs and brochures, but the signs indicated that a tire gauge was available to be borrowed; and
- Control (5 stations): These served as controls and had neither signs nor brochures, providing a basis for comparison with the intervention stations.

For the "Intervention B" stations, where gauges were available to be borrowed, the gauge was attached to a bar (as are many gas station washroom keys) or tethered to the air pump in order to decrease theft, or motorists simply forgetting to return it to the station.

Mississauga Pilot

The Mississauga pilot was conducted over a two-week period in August, 2001. With the delay of one year between the two pilots, the project implementation team was able to make adjustments based on the results of the Atlantic pilot, which had little effect in encouraging motorists to check and inflate their tires (see Section 3.1). The key modification was to re-introduce elements of personal contact and commitment contemplated in the original pilot design. The Mississauga pilot used the same combination of signs and brochures, but with the addition of personal contact interventions conducted by a small team of project staff. With the interventions, staff approached motorists at selected stations with the brochure and "cling vinyl" decal. Motorists were then asked to take a copy of the brochure and to make a commitment to check and maintain proper tire pressure by posting the decal on their windshield.

With this modified, more labour-intensive approach, a smaller number of stations were included in the pilot. Another difference from the Atlantic pilot was that Petro-Canada's new air pumps included built-in tire gauges, making it unnecessary to provide these for borrowing.

In Mississauga, the 10 participating stations were randomly divided as follows:

- Pre-test: One station was used to test and refine the intervention process and then was not used for the rest of the pilot;
- Intervention A: Three stations had signs and interventions which involved project staff approaching motorists with the brochure and decals;
- Intervention B: Three stations had signs and interventions which involved project staff approaching motorists with the brochure and decals, as well as with an offer to assist motorists with checking and inflating their tires; and
- Control: Three stations were used as controls and had neither signs nor interventions, providing a basis for comparison with the intervention stations.

In addition, while targeted to all motorists, the approach was particularly designed to encourage women to consider the importance of proper tire inflation. To increase the perception that checking tire pressure is a "female activity," project staff worked in male-female teams and the female staff were asked to approach female motorists whenever possible, in order to increase women's comfort level with using air pumps.

In contrast to the Atlantic pilot, the Mississauga pilot involved talking with motorists. Personal contact is a central behavior change tool of community-based social marketing.

The Atlantic pilot did not affect the percentage of motorists who used a tire gauge when checking their tires, the number of tires checked, or the number of tires inflated.

2.5 EVALUATION

Both pilots included a strong evaluation component - involving baseline and follow-up data collection – in order to provide a basis for measuring the effectiveness of the CBSM strategies.

Baseline Data Collection

Baseline measurements and observations were made at all participating gas stations for ten days over a two-week period to determine the frequency with which motorists already check and inflate their tires. Data were collected for two-hour periods at participating stations between the hours of 11 a.m. and 6:30 p.m. from Tuesday to Saturday. These times and days were selected to capture the full spectrum of air pump use, including that which occurs during business hours, evening rush-hour, and weekends.

Follow-up Data Collection

Once the strategies had been implemented, follow-up observations were made for 10 days over a two-week period, at the same times of day as the baseline, for all participating stations in the Atlantic pilot. For the Mississauga pilot, follow-up observations were made at the time of the interventions to determine their effectiveness in encouraging proper tire maintenance.

3.0 PILOT RESULTS

3.1 ATLANTIC RESULTS

As can be seen in following table, very few motorists inflated their tires either during the baseline or follow-up observations. During the baseline data collection period, a total of 60 motorists (85% of them male) used the air pump. In contrast, during the follow-up data collection 59 motorists used the air pump (91% male).

The two intervention conditions were collapsed for the follow-up as no differences emerged between stations for which the signs advertised the availability of a tire gauge that could be borrowed and those that did not.

As can also be seen in the following table, the interventions did not affect the percentage of motorists who used a tire gauge when checking their tires, the number of tires checked, or the number of tires inflated.

Baseline Observations	Male	Female	Total
Number/Percentage of Motorists using Air Pump	51 (85%)	9 (15%)	60
Number/Percentage of Motorists who used a Tire Gauge	25(49%)	8(89%)	33(55%)
Number of Tires Checked (average)	1.2	2.0	1.3
Number of Tires Inflated (average)	1.8	1.4	1.8
Follow-up Observations (Conditions are collapsed)	**Male**	**Female**	**Total**
Number/Percentage of Motorists using Air Pump	54(91%)	5 (8%)	59
Number/Percentage of Motorists who used a Tire Gauge	30(55%)	3(60%)	33(56%)
Number of Tires Checked (average)	1.3	2.4	1.4
Number of Tires Inflated (average)	1.8	2.2	1.8

While the Atlantic pilot did not affect the number of motorists who inflate their tires, it nonetheless clearly indicates that is almost exclusively men in Atlantic Canada that inflate tires. Further, these individuals only use a tire gauge (even when one is made available) slightly more than half the time and when they do, they usually only check one tire.

3.2 Mississauga Results

In addition to measuring the number of motorists who used an air pump, the Mississauga pilot also recorded the number of motorists at the stations. As a consequence, this pilot provides valuable information on the percentage of motorists who inflate their tires. As shown in the table, during the baseline observations 4.3% of motorists checked their tires compared to 7% during the intervention (an increase of 62%). Of particular interest is the finding that most of this increase is a consequence of women checking their tires more frequently. During the baseline period only 2.4% of female motorists checked their tires. Further, of the 276 motorists who checked their tires during baseline observations only 39, or 14%, were women. In contrast, during the intervention 11% of all women checked their tires. Further, of the 75 motorists who checked their tires, 37% were now women -- an increase of 264%! The Mississauga pilot specifically targeted female motorists by electing to have them be approached by a female monitor. Having a woman approach them may have assisted in increasing their likelihood of checking their tires.

During the intervention a total of 1053 motorists were approached, 76% of whom were male. Fully 831 of these motorists were willing to talk to the monitor (79%), with an equivalent number of men and women willing to speak to the monitor (78% and 81%, respectively). Of those who were approached, 71% took the brochure with a higher percentage of women taking the brochure than men (79% versus 69%, respectively). Overall 55% of the motorists agreed to take the sticker with an equivalent number of men and women agreeing. While over half of all motorists took the sticker, only 3% were observed placing the sticker on their window.

Motorists were also asked if they would like assistance with checking their tires. Five percent of all of the motorists who were approached accepted this assistance, with women being three times as likely to as men (9% versus 3%, respectively).

3.3 Observations

The Mississauga pilot demonstrates that it is possible to use community-based social marketing approaches to increase the percentage of motorists who check their tires. While an overall increase of 64% may not seem dramatic, it is unrealistic to assume that a substantial number of motorists will check their tires when they visit a gas station.

This pilot also convincingly demonstrated that the majority of motorists are willing to be engaged in a conversation about tire inflation and accept a brochure and sticker.

Baseline Observations	**Male**	**Female**	**Total**
Number of Motorists at Stations	4792 (74%)	1643 (26%)	6435
Number (%) of Motorists who Checked Tires	237(5%)	39(2.4%)	276(4.3%)
Intervention Observations (assistance provided)	**Male**	**Female**	**Total**
Number of Men and Women at Stations who were Approached	796 (76%)	257 (24%)	1053
Number/ Percentage Willing to Talk	624 (78%)	207 (81%)	831 (79%)
Number/ Percentage who took Brochure	548 (69%)	202 (79%)	750 (71%)
Number/ Percentage who took Sticker	433 (54%)	146 (57%)	579 (55%)
Number/ Percentage who Placed Sticker on Window	25 (3%)	6(2%)	31 (3%)
Number/ Percentage who Accepted Assistance	27 (3%)	24(9%)	51 (5%)
Number (%) of Motorists who Checked Tires	47 (6%)	28(11%)	75 (7%)

The Mississauga pilot increased the frequency of checking tires by 64% overall. Most of this increase was due to women checking their tires more frequently. While the number of men checking their tires rose by only 20%, the number of women increased by a staggering 264%.

The Promoting Correct Tire Pressure project resulted in very positive partnerships with two major Canadian oil companies.

4.0 FUTURE DIRECTIONS

4.1 REFINING SOCIAL MARKETING STRATEGIES

Additional piloting is necessary to develop an approach that increases the percentage of motorists who attach the decal to their windshield (only 3% of motorists placed the sticker on their windsheild). Several versions of the window sticker should be focus group tested to determine if the sticker can be made more appealing. Further, several alternative approaches for securing a commitment to place the sticker on the window should be field tested to find which approach is most effective.

4.2 TECHNOLOGY-BASED RESEARCH

Recently, vehicles have been introduced into the market (e.g., Toyota Sienna Minivan) that include equipment that monitors tire pressure. In the case of the Toyota minivan a warning light appears on the dashboard if a tire drops 2 psi below proper inflation. This technological innovation provides an opportunity to test in the real world whether motorists who have vehicles equipped with this device are more likely to keep their tires properly inflated than owners who do not. If significant differences are found, manufactures could be encouraged to equip their vehicles with these devices.

4.3 PROMISING PARTNERSHIPS

Oil Companies

Irving Oil is a prominent gasoline retailer in Atlantic Canada, while Petro-Canada has a strong national presence, with stations in all parts of the country. Both companies have indicated an interest in exploring future opportunities to promote correct tire pressure to their customers. As one small example, Petro-Canada recently added tire inflation to its "5 easy fuel-saving tips," as part of a nationally distributed flyer – "Behind the Numbers."

Several potential future opportunities involving these (or other gasoline retailers) include:

- Encourage retailers with full service stations to have gas station attendants include brief reminders about tire inflation during their interactions with customers. This approach would cast tire inflation as a "service" provided by full service stations, similar to cleaning the windshield or checking the oil. Ideally, gas station attendants could offer to assist those who need help with checking and inflating tires. This could be done year-round or potentially as part of a short "blitz" (perhaps over a two-four week period) to heighten awareness about proper tire inflation.

- As was done in the Mississauga pilot, teams of students/campaigners could be trained to implement personal contact interventions at self serve gas stations throughout Canada, perhaps with the refinements described in Section 4.1. Project staff could be hired directly by the oil companies, or retained through other no- or low-cost methods: e.g., community service by high school students; college/university internship programs; or non-government organizations with project funding from government (e.g., climate change hub) or non-government (e.g., foundation or corporate) sources. This would probably work best as part of a short "blitz" (two-four week period) accompanied by a broader media campaign, possibly including radio or newspaper advertising.

Tire/Rubber Manufacturers

Although tire/rubber manufacturers were not involved in the pilot project, it is anticipated that the approaches used and lessons learned will be of interest to this "sector." For example, the Rubber Association of Canada has expressed interest in implementing outreach and awareness-building initiatives that promote tire safety and fuel efficiency, and position proper tire inflation as one approach to address environmental problems such as climate change. One possibility may be to include personal contact interventions as past of an overall media/outreach campaign Another would be to work with tire retailers to provide information on proper tire inflation (perhaps variations on the Promoting Correct Tire Pressure brochure and decal) to new tire buyers, at point of purchase.

Vehicle Manufactures and Car Dealerships

One very promising avenue is to arrange with vehicle manufactures to have the decal attached windshields before vehicles leave the manufacturing plant. To increase the likelihood of this occurring, interested manufactures should be involved in the refinement of the decal and allowed to co-brand it.

Similar arrangements can be made with car dealerships to have decals attached to windows when vehicles are serviced. The efficacy of having manufactures and dealerships attach decals should be tested using the same strategy suggested for the technology-based research.

One very promising avenue is to arrange with vehicle manufactures to have the decal attached windshields before vehicles leave the manufacturing plant.